1   APPARATUS FOR, AND METHOD OF, RECEIVING SATELLITE

2   TELEVISION SIGNALS IN AN APARTMENT BUILDING AND

3   PROVIDING TELEVISION IMAGES IN THE RECEIVERS

4   IN SUCH BUILDING

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8   Abstract of the Disclosure

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             Digital packets, defined by a sync byte and then 130 MPEG2 compressed

QPSK signal bytes, from a satellite transponder are reformatted prior to transmission to

television receivers in apartments in a building wired to distribute video signals. A side byte

between such sync and signal bytes in each packet indicates (a) any QPSK packet

uncorrectable error and (b) processing information which allows automatic reconfiguration

at the settop box. Additional FEC bytes correct to 8 errors within a $MPEG2_{QPSK}$ packet. The

system removes the FEC bytes and reframes the $MPEG2_{QPSK}$ packets into a superpacket by

converting a first number of the $MPEG2_{QPSK}$ packets to a second number of $MPEG2_{QAM}$

packets. An added sync byte indicates the beginning of each such $MPEG2_{QAM}$ packet. The

system adds side data bytes including any uncorrectable errors in each $MPEG2_{QPSK}$ packet

and adds a new, less complicated FEC to each $MPEG2_{QAM}$ packet. The system modulates

1   and upconverts the bytes in each MPEG2$_{QAM}$ packet and passes them through a cable plant

2   constructed to receive modulated QAM bytes (or NTSC signals) which are demodulated at

3   the settop box. The additional FEC bytes correct to 8 errors within a MPEG2$_{QAM}$ packet and

4   are then removed. The superpacket is deframed to obtain the MPEG2$_{QPSK}$ packets. After

5   finding a television channel, the side bytes are processed to determine the frequency location

6   of the other channels in the apartment receivers and the existence of uncorrectable errors.

7   The MPEG2$_{QAM}$ bytes are decompressed and encoded to reproduce the television images in

8   the apartment receivers.

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